

TECHNICAL WORK MAY NOT BEGIN PRIOR TO CO APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	JOB ORDER NUMBER	APPROP. FY
QSS Group, Inc.	NAS5- 99124 235 AMENDMENT	730-998-17-19-89	00

TASK TITLE: (NTE 80 characters; include Project name)

MARSAT Space and Ground Segment Trade Study and System Requirements Development

APPROVALS: (Type or print name and sign)

ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR)	DATE	ORG CODE	MAIL CODE	PHONE
Colleen McGraw <i>Colleen McGraw</i>	3/27/00	730	730.3	301-286-9941
BRANCH HEAD	DATE	CODE	PHONE	
Eric Isaac / Ronald Leun (301 286-9407) <i>Eric Isaac</i>	3/25/2000	730.3	301-286-5712	
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)	DATE	CODE	PHONE	
Robert S. Lehair, Jr. <i>Robert S. Lehair, Jr.</i>	3/27/00	560	301-286-6588	
FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE (If YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:		
<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES		MIL 98 2000		

The contractor shall identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to this Task Order or to any of the technical requirements of the Task Order Statement of Work and related specifications. The contractor shall complete and submit the required Reps and Certs.

(To be completed by Contracting Officer)
C.O. Requested Quote on:
Date:

Contractor will develop specification or statement of work under this task for a future procurement. ☐ NO ☐ YES

Flight hardware will be shipped to GSFC for testing prior to final delivery. ☐ NO ☐ YES ☒ N/A

Government Furnished Property/Facilities: ☒ NO ☐ YES - SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)

Onsite Performance: ☒ NO ☐ YES If yes: ☐ TOTAL ☐ PARTIAL
If partial, indicate onsite work in SOW by asterisk (*)

Surveillance Plan Attached: ☒ NO ☐ YES

Highlighted Contract Clauses: (to be completed by Contracting Officer)

Per Clause H.14, Task Ordering Procedure, subparagraph (f), the effective date of this task order shall be March 28, 2000.

INCENTIVE FEE STRUCTURE (check one)
(See Contract NAS5-99124, Attachment K, Incentive Fee Plan)

	No. 1	No. 2	No. 3	No. 4	<input checked="" type="checkbox"/> No. 5
Cost	10%	50%	25%	25%	20%
Schedule	15%	25%	25%	50%	50%
Technical	75%	25%	50%	25%	30%

(To be completed by Contracting Officer)

The target cost of this task order is \$ 67,350.

The target fee of this task order is \$ 4,378.

The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is \$ 71,728.

The maximum fee is \$ 6,399.

The minimum fee is \$0.

AUTHORIZED SIGNATURE

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

Elizabeth J. Austin
SIGNATURE OF CONTRACTING OFFICER

4/19/00
DATE

ELIZABETH J. AUSTIN
CONTRACTING OFFICER

TYPED NAME OF CONTRACTING OFFICER

CONTRACTOR'S ACCEPTANCE

AUTHORIZED SIGNATURE

DATE

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QSS Group, Inc.	NAS5- 99124	235	

Applicable paragraphs from contract Statement of Work:

STATEMENT OF WORK: (Continue on blank paper if additional space is required)

Develop a concept for a Mars Aerostationary Satellite System (MARSAT)
Study the options for the development and implementation of a MATSAT constellation (~1 to 4 satellites).
Other options to be studied include

- provide concept for Initial Operational Capability (IOC) for '05 launch opportunity
- provide assessment for various communications trades / options for the Mar-to-Earth link and the Mar's in situ user support link including the JPL Comm/Nav orbiters

Develop a initial MARSAT system specification document / database using requirements tracking tool like DOORS.
The purpose is to develop and produce MARSAT system requirements (level 2) that will allow GSFC and JPL to definitize and cost the first copy of the IOC MARSAT by the end of June 2000.

PERFORMANCE SPECIFICATIONS:

Final report and presentation to contain the detailed engineering results of the study as described in the SOW above. This report should describe the studies performed as well as report the technical findings and supporting rationale from the studies. The report should be delivered in either MS Word or Powerpoint format.
Any drawings and figures generated for this study should be supplied separately in a generally accepted format suitable for reading and use by PCs and MacIntosh computers.

APPLICABLE DOCUMENTS:

Reference Document: MARSAT Study Approach

TASK END DATE: 8/30/00

MILESTONES/DELIVERABLES AND DATES:

1st Draft Report in by 4/15/2000

2st Draft Report in by 5/1/2000

3st Draft Report in by 6/1/2000

Final Report and Presentation by 7/30/2000

JPL Presentation by 6/30/2000

PERFORMANCE STANDARDS:

Schedule: On-time delivery of the above

Technical: ATR's acceptance of the above

FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):

Colleen McGraw, Bldg 12, Room N227

Scope

The GSFC, in coordination with the JPL Mars program office, will develop a detailed concept for a high rate Mars orbiting data relay satellite. This will be accomplished by establishing detailed mission requirements in joint JPL/GSFC sessions exploring the entire trade space and implementation options. The team will include an examination of advanced technologies that might enable increases in performance as well as decreases in cost or launch mass. In addition, methods of utilizing the commercial aerospace/industrial capabilities without compromising reliability or safety will be examined.

Key Assumptions:

- A launch window of June/August 2005 with a technology cutoff date of June 2003
- Significant input from the Mars program office regarding:
 - Required at Mars commissioning date and orbit
 - In-situ Link (ISL) payload performance and interface assumptions
 - Development of Marsat performance requirements
- Satellite design life of 9 years (2 years cruise maximum + 7 years operations)
- 250 Kbps minimum data rate from Mars to the DSN at maximum Mars-Earth range

Products

The study team will produce a comprehensive examination of various Marsat implementations that meet the performance goals established by the Mars program office. It is expected that point designs will be developed along with detailed cost estimates of sufficient fidelity that the GSFC and JPL can agree on a commitment toward a Marsat program. These point designs will include in-house solutions, commercial concepts, and hybrid approaches. As part of this exercise, the team will produce a Marsat Mission Requirements Document, preliminary interface descriptions, cost and schedule information for the baseline mission.

The Marsat product list:

- Mission Requirements Document with Interface Definition Appendices
- Mission Cost with GSFC Commitment
- Draft JPL/GSFC Marsat Memorandum of Understanding

Labor Required

The GSFC and JPL teams will work cooperatively to develop an integrated Marsat configuration. The GSFC team will consist of:

- 1 Project Manager
- 1 Mission Systems Engineer
- 2 Systems Engineers
- 1 Guidance, Navigation, and Control Engineer
- 1 Communications Systems Engineer
- 1 Data Systems/IT Engineer
- 1 Ground Systems/Operations Engineer
- 2 Technical Writing/Requirements Traceability Engineers (contractor)
- Communications Architecture Support (contractor)

It is expected that JPL will establish a joint working team to define the interfaces and requirements for Marsat support of the ISL. This team, led by JPL, will consist of the necessary persons and skills from JPL and will involve some members of the GSFC Marsat team.

Schedule

The attached schedule provides the preliminary plan for the Marsat 5-month study. It culminates in an executive level bi-lateral decision meeting between GSFC and JPL and sets the stage for the completion and sanctioning of a Marsat specific memorandum of understanding between GSFC and JPL with Code S approval.

MARSAT Study Schedule

